

CHAPTER-5 | Arithmetic Progressions

QUIZ PART-13

1. Given $a_n = 3 + 4n$, show that this forms an A.P. and find the sum of the first 15 terms.

- A. The sum is 600
B. The sum is 625
C. The sum is 650
D. The sum is 675 (B)

Explanation: This is an A.P. with a common difference of 4. The sum of the first 15 terms is 625.

2. Given $a_n = 9 - 5n$, show that this forms an A.P. and find the sum of the first 15 terms.

- A. The sum is 135
B. The sum is 150
C. The sum is 165
D. The sum is 180 (A)

Explanation: This is an A.P. with a common difference of -5. The sum of the first 15 terms is 135.

3. If the sum of the first n terms of an A.P. is $4n - n^2$, what is the first term?

- A. 4
B. 5
C. 6
D. 7 (A)

Explanation: The first term is 4.

4. What is the sum of the first 40 positive integers divisible by 6?

- A. 480
B. 500
C. 510
D. 520 (A)

Explanation: The sum is 480.

5. Find the sum of the first 15 multiples of 8.

- A. 900
B. 960
C. 1000
D. 1040 (B)

Explanation: The sum is 960.

6. Find the sum of the odd numbers between 0 and 50.

- A. 625
B. 700
C. 725
D. 750 (C)

Explanation: The sum is 725.

7. If the penalty for delay increases by ₹50 each day, starting with ₹200 on the first day, how much will the contractor pay after 30 days?

- A. ₹11,400
B. ₹11,500
C. ₹11,600
D. ₹11,700 (A)

Explanation: The contractor will pay ₹11,400 for the 30 days of delay.

8. What is the sum of the first 10 terms of the A.P. 1, 5, 9, ...?

- A. 90
B. 95
C. 100
D. 105 (D)

Explanation: The sum of the first 10 terms is 105.

9. What is the 25th term of the A.P. 3, 8, 13, ...?

- A. 118
B. 120
C. 125
D. 130 (B)

Explanation: The 25th term is 120.

10. Find the sum of the first 20 terms of the A.P. 7, 10, 13, ...

- A. 420
B. 430
C. 440
D. 450 (C)

Explanation: The sum of the first 20 terms is 440.